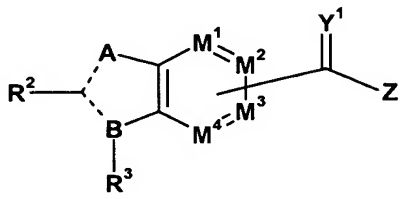
CLAIMS

1. An isomer, enantiomer, diastereoisomer, or tautomer of a compound, represented by formula I:



(I)

wherein

----- represents either a single or a double bond;

B is -N- and **A** is $=CR^1-$ or =N-; or

B is =C- and **A** is O, S or NR^1;

R^1 is selected from the group consisting of: H, (C_{1-6})alkyl optionally substituted with:
halogen, OR^{11}, SR^{11} or $N(R^{12})_2$, wherein R^{11} and each R^{12} is independently H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl, (C_{1-6})alkyl-(C_{3-7})cycloalkyl, (C_{1-6})alkyl-aryl or (C_{1-6})alkyl-**Het**, said aryl or **Het** optionally substituted with R^{160}; or
both R^{12} are covalently bonded together and to the nitrogen to which they are both attached to form a 5, 6 or 7-membered saturated heterocycle;

the group $-C(=Y^1)-Z$ is covalently linked to either M^2 or M^3,

M^1 is CR^{4a} ,
M^2 or M^3, when not linked to $-C(=Y^1)-Z$, is CR^5,
M^4 is CR^{4b},

and in addition one or two of the groups selected from M^1, M^2, M^3 and M^4 may also be N, with the proviso that the group M^2 or M^3 to which $-C(=Y^1)-Z$ is linked is a C-

atom,

Y^1 is O or S;

Z is defined as NR^{N2}-SO_2-R^C or NR^{N3}-SO_2-$N(R^{N2})R^{N1}$, wherein R^C, R^{N1} or any heterocycle formed by R^{N1} and R^{N2} is optionally substituted with R^{60};

R^2 is selected from: halogen or R^{21}, wherein R^{21} is aryl or **Het**, said R^{21} is optionally substituted with R^{150};

R^3 is selected from (C_{1-6})alkyl, (C_{3-7})cycloalkyl, (C_{1-3})alkyl-(C_{3-7})cycloalkyl, (C_{5-7})cycloalkenyl, (C_{1-3})alkyl-(C_{5-7})cycloalkenyl, (C_{6-10})bicycloalkyl, (C_{1-3})alkyl-(C_{6-10})bicycloalkyl, (C_{6-10})bicycloalkenyl, (C_{1-3})alkyl-(C_{6-10})bicycloalkenyl, **HCy** or (C_{1-3})alkyl-**HCy**,
wherein **HCy** is a saturated or unsaturated 4 to 7-membered heterocyclic group with 1 to 3 heteroatoms selected from O, S and N;
said alkyl, cycloalkyl, cycloalkenyl, bicycloalkyl, bicycloalkenyl, **HCy** and alkyl-**HCy** being optionally substituted with from 1 to 4 substituents selected from: a) halogen;
b) (C_{1-6})alkyl optionally substituted with:
- 1 to 3 substituents selected from halogen;
- OR^{31} or SR^{31} wherein R^{31} is H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl; or
- $N(R^{32})_2$ wherein each R^{32} is independently H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl; or both R^{32} are covalently bonded together and to the nitrogen to which they are attached to form a 5, 6 or 7-membered saturated heterocycle;

c) OR^{33} or SR^{33} wherein R^{33} is H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl;
d) $N(R^{35})_2$ wherein each R^{35} is independently H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl; or both R^{35} are covalently bonded together and to the nitrogen to which they are attached to form a 5, 6 or 7-membered saturated heterocycle;

R^{4a}, R^{4b}, R^5 each are independently H or defined as R^{150};

R^{60} is defined as 1 to 4 substituents independently selected from:

- 1 to 3 substituents selected from halogen;
- one of each substituent selected from: OPO_3H, NO_2, cyano, azido, $C(=NH)NH_2$, $C(=NH)NH(C_{1-6})$alkyl or $C(=NH)NHCO(C_{1-6})$alkyl, SO_3H; and
- 1 to 3 substituents selected from:

a) (C_{1-6}) alkyl, (C_{3-7})cycloalkyl, (C_{3-7}) spirocycloalkyl optionally containing 1 or 2 heteroatoms selected from N, O and S; (C_{2-6})alkenyl, (C_{2-8})alkynyl, (C_{1-6})alkyl-(C_{3-7})cycloalkyl, all of which optionally being substituted with R^{150};

b) OR^O;

c) $OC(O)R^O$;

d) SR^O, SO_2R^C, $SO_2N(R^{N2})R^{N1}$, $SO_2N(R^{N2})C(O)R^C$, $CONR^{N3}SO_2N(R^{N2})R^{N1}$, or $CONR^{N2}SO_2R^C$;

e) $N(R^{N2})R^{N1}$, $N(R^{N2})COOR^C$, $N(R^{N2})SO_2R^C$ or $N(R^{N1})OR^O$;

f) $N(R^{N2})COR^C$;

g) $N(R^{N3})CON(R^{N2})R^{N1}$;

h) $N(R^{N3})COCOR^C$, $N(R^{N3})COCOOR^O$, $N(R^{N3})COCON(R^{N2})OR^O$, or $N(R^{N3})COCON(R^{N2})R^{N1}$;

i) COR^O;

j) $COOR^O$;

k) $CON(R^{N2})R^{N1}$;

l) aryl, **Het,** (C_{1-4})alkyl-aryl or (C_{1-4})alkyl-**Het**, all of which optionally being substituted with R^{150};

wherein said R^{N1}, R^C and/or R^O are optionally substituted with R^{150} as defined,

R^{150} is defined as 1 to 4 substituents independently selected from:

- 1 to 3 substituents selected from halogen;
- one of each substituent selected from: OPO_3H, NO_2, cyano, azido, SO_3H $C(=NH)NH_2$, $C(=NH)NH(C_{1-6})$alkyl or $C(=NH)NHCO(C_{1-6})$alkyl; and
- 1 to 3 substituents selected from:

a) (C_{1-6}) alkyl, (C_{3-7})cycloalkyl, (C_{3-7})spirocycloalkyl optionally containing 1 or 2 heteroatoms selected from N, O and S; (C_{2-6})alkenyl, (C_{2-8})alkynyl, (C_{1-3})alkyl-(C_{3-7})cycloalkyl, all of which optionally substituted with $\mathbf{R^{160}}$;

b) OR^O;

c) $OC(O)R^O$;

d) SR^O, SO_2R^C, $SO_2N(R^{N2})R^{N1}$ or $SO_2N(R^{N2})C(O)R^C$;

e) $N(R^{N2})R^{N1}$, $N(R^{N2})COOR^C$, $N(R^{N2})SO_2R^C$ or $N(R^{N1})OR^O$;

f) $N(R^{N2})COR^C$;

g) $N(R^{N3})CON(R^{N2})R^{N1}$;

h) $N(R^{N3})COCOR^C$, $N(R^{N3})COCOOR^O$, $N(R^{N3})COCON(R^{N2})OH$, $N(R^{N3})COCON(R^{N2})O(C_{1-4})$alkyl or $N(R^{N3})COCON(R^{N2})R^{N1}$;

i) COR^O;

j) $COOR^O$;

k) tetrazole, triazole, $CONR^{N2}SO_2R^C$, $CONR^{N3}$-$SO_2N(R^{N2})R^{N1}$ or $CON(R^{N2})R^{N1}$;

wherein said R^{N1}, R^C and/or R^O are optionally substituted with R^{160} as defined;

R^{160} is defined as 1, 2 or 3 substituents independently selected from:

- 1, 2 or 3 fluorine substituents; and
- one of each substituent selected from tetrazole, triazole, chlorine, bromine, iodine, CN, nitro, (C_{1-4})alkyl, OCF_3, SCF_3, CF_3, $COOR^{161}$, SO_3H, SR^{161}, SO_2R^{163}, OR^{161}, $N(R^{162})_2$, $SO_2N(R^{162})_2$, $SO_2NR^{162}COR^{162}$, $NR^{162}SO_2R^{163}$, $-NR^{161}$-CO-$COOR^{161}$, $-NR^{161}$-CO-$CO(NR^{162})_2$, $-CONR^{161}SO_2R^C$, $CONR^{161}$-$SO_2N(R^{162})_2$ or $-SO_2$-NR^{161}-COR^C, $NR^{162}COR^{162}$ or $CON(R^{162})_2$, wherein R^{161}, R^{163} and each R^{162} is independently (C_{1-4})alkyl, (C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl; and R^{161} and each R^{162} may each independently also be H; or both R^{162} are covalently bonded together and to the nitrogen to which they are attached to form a 5, 6 or 7-membered saturated heterocycle;

R^O, R^C are independently defined as (C_{1-6})alkyl, (C_{3-7})cycloalkyl, (C_{1-4})alkyl-(C_{3-7})cycloalkyl, (C_{2-6})alkenyl, aryl, **Het**, (C_{1-4})alkyl-aryl, or (C_{1-4})alkyl-**Het**; or R^O is also optionally defined as H.

R^{N1} is H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl, (C_{1-4})alkyl-(C_{3-7})cycloalkyl, (C_{2-6})alkenyl, aryl, **Het**, (C_{1-4})alkyl-aryl, (C_{1-4})alkyl-Het; and

R^{N2}, R^{N3}, R^{N4} are independently H, CH_3, (C_{2-6})alkyl, (C_{3-6})cycloalkyl, (C_{1-4})alkyl-(C_{3-6})cycloalkyl; all of which being optionally substituted with halogen, carboxy or (C_{1-6})alkoxycarbonyl; and/or wherein said alkyl, cycloalkyl or alkylcycloalkyl is optionally substituted with hydroxy, (C_{1-6})alkyl, (C_{1-6})alkoxy, amino, -NH(C_{1-4})alkyl and/or –N$((C_{1-4})$alkyl$)_2$; or

in the case

a) of a group N(R^{N2})R^{N1} the substituents R^{N2} and R^{N1}; or

b) of a group NR^{N3}-N(R^{N2})R^{N1} the substituents R^{N3} and R^{N1}, or R^{N2} and R^{N1};

may be covalently bonded together to form a 4-, 5-, 6- or 7-membered saturated or unsaturated N-containing heterocycle or a 8-, 9-, 10- or 11-membered N-containing heterobicycle, each optionally having additionally from 1 to 3 heteroatoms selected from O, N, and S;

wherein **Het** is defined as a 4-, 5-, 6- or 7-membered heterocycle having 1 to 4 heteroatoms selected from O, N and S, or a 8-, 9-, 10- or 11-membered heterobicycle having 1 to 5 heteroatoms selected from O, N and S;

or a salt thereof.

2. The compound according to claim 1, wherein

----- represents either a single or a double bond;

B is -N- and **A** is CR^1 or =N-; or

B is =C- and **A** is O, S or NR^1;

R^1 is selected from the group consisting of: H, (C_{1-6})alkyl optionally substituted with:

halogen, OR^{11}, SR^{11} or N$(R^{12})_2$, wherein R^{11} and each R^{12} is independently H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl, (C_{1-6})alkyl-(C_{3-7})cycloalkyl, (C_{1-6})alkyl-aryl or

(C_{1-6})alkyl-**Het**, said aryl or **Het** optionally substituted with $\mathbf{R^{160}}$; or
both $\mathbf{R^{12}}$ are covalently bonded together and to the nitrogen to which they are both attached to form a 5, 6 or 7-membered saturated heterocycle;

the group $\mathbf{-C(=Y^1)-Z}$ is covalently linked to either $\mathbf{M^2}$ or $\mathbf{M^3}$,

$\mathbf{M^1}$ is CR^{4a} ,
one of $\mathbf{M^2}$ and $\mathbf{M^3}$ is CR^5,
$\mathbf{M^4}$ is CR^{4b},

and in addition one or two of the groups selected from $\mathbf{M^1}$, $\mathbf{M^2}$, $\mathbf{M^3}$ and $\mathbf{M^4}$ may also be N, with the proviso that the group $\mathbf{M^2}$ or $\mathbf{M^3}$ to which $\mathbf{-C(=Y^1)-Z}$ is linked is an C-atom,

$\mathbf{Y^1}$ is O or S;

Z is defined as NR^{N2}-SO_2-$\mathbf{R^C}$, wherein $\mathbf{R^C}$ is optionally substituted with $\mathbf{R^{60}}$;

$\mathbf{R^2}$ is selected from: halogen or $\mathbf{R^{21}}$, wherein $\mathbf{R^{21}}$ is aryl or **Het**, said $\mathbf{R^{21}}$ is optionally substituted with $\mathbf{R^{150}}$;

$\mathbf{R^3}$ is selected from (C_{1-6})alkyl, (C_{3-7})cycloalkyl, (C_{1-3})alkyl-(C_{3-7})cycloalkyl, (C_{5-7})cycloalkenyl, (C_{1-3})alkyl-(C_{5-7})cycloalkenyl, (C_{6-10})bicycloalkyl, (C_{1-3})alkyl-(C_{6-10})bicycloalkyl, (C_{6-10})bicycloalkenyl, (C_{1-3})alkyl-(C_{6-10})bicycloalkenyl, **HCy** or (C_{1-3})alkyl-**HCy**,
wherein **HCy** is a saturated or unsaturated 4 to 7-membered heterocyclic group with 1 to 3 heteroatoms selected from O, S and N;
said alkyl, cycloalkyl, cycloalkenyl, bicycloalkyl, bicycloalkenyl, **HCy** and alkyl-**HCy** being optionally substituted with from 1 to 4 substituents selected from: a) halogen;
b) (C_{1-6})alkyl optionally substituted with:
- OR^{31} or SR^{31} wherein $\mathbf{R^{31}}$ is H, $(C_{1-6}$alkyl), (C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl; or
- $N(\mathbf{R^{32}})_2$ wherein each $\mathbf{R^{32}}$ is independently H, (C_{1-6})alkyl,

(C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl; or both $\mathbf{R^{32}}$ are covalently bonded together and to the nitrogen to which they are attached to form a 5, 6 or 7-membered saturated heterocycle;

c) $O\mathbf{R^{33}}$ or $S\mathbf{R^{33}}$ wherein $\mathbf{R^{33}}$ is H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl;

d) $N(\mathbf{R^{35}})_2$ wherein each $\mathbf{R^{35}}$ is independently H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl; or both $\mathbf{R^{35}}$ are covalently bonded together and to the nitrogen to which they are attached to form a 5, 6 or 7-membered saturated heterocycle;

$\mathbf{R^{4a}}$, $\mathbf{R^{4b}}$, $\mathbf{R^{5}}$ each are independently H or defined as $\mathbf{R^{150}}$;

$\mathbf{R^{60}}$ is defined as 1 to 4 substituents independently selected from:

- 1 to 3 substituents selected from halogen;
- one of each substituent selected from: OPO_3H, NO_2, cyano, azido, $C(=NH)NH_2$, $C(=NH)NH(C_{1-6})$alkyl or $C(=NH)NHCO(C_{1-6})$alkyl, SO_3H; and
- 1 to 3 substituents selected from:

a) (C_{1-6}) alkyl, (C_{3-7})cycloalkyl, C_{3-7} spirocycloalkyl optionally containing 1 or 2 heteroatom selected from N, O and S; (C_{2-6})alkenyl, (C_{2-8})alkynyl, (C_{1-6})alkyl-(C_{3-7})cycloalkyl, all of which optionally being substituted with $\mathbf{R^{150}}$;

b) $O\mathbf{R^{O}}$;

c) $OC(O)\mathbf{R^{O}}$;

d) $S\mathbf{R^{O}}$, $SO_2\mathbf{R^{C}}$, $SO_2N(\mathbf{R^{N2}})\mathbf{R^{N1}}$, $SO_2N(\mathbf{R^{N2}})C(O)\mathbf{R^{C}}$ or $CON\mathbf{R^{N2}}SO_2\mathbf{R^{C}}$;

e) $N(\mathbf{R^{N2}})\mathbf{R^{N1}}$, $N(\mathbf{R^{N2}})COO\mathbf{R^{C}}$ or $N(\mathbf{R^{N2}})SO_2\mathbf{R^{C}}$;

f) $N(\mathbf{R^{N2}})CO\mathbf{R^{C}}$;

g) $N(\mathbf{R^{N3}})CON(\mathbf{R^{N2}})\mathbf{R^{N1}}$;

h) $N(\mathbf{R^{N3}})COCO\mathbf{R^{C}}$, $N(\mathbf{R^{N3}})COCOO\mathbf{R^{O}}$ or $N(\mathbf{R^{N3}})COCON(\mathbf{R^{N2}})\mathbf{R^{N1}}$;

i) $CO\mathbf{R^{O}}$;

j) $COO\mathbf{R^{O}}$;

k) $CON(\mathbf{R^{N2}})\mathbf{R^{N1}}$;

l) aryl, **Het,** $(C_{1-4}$alkyl)aryl or $(C_{1-4}$alkyl)**Het**, all of which optionally being substituted with $\mathbf{R^{150}}$;

wherein said R^{N1}, R^{C} and/or R^{O} are optionally substituted with R^{150} as defined;

R^{150} is defined as 1 to 4 substituents independently selected from:

- 1 to 3 substituents selected from halogen;
- one of each substituent selected from: OPO_3H, NO_2, cyano, azido, $C(=NH)NH_2$, $C(=NH)NH(C_{1-6})$alkyl or $C(=NH)NHCO(C_{1-6})$alkyl; and
- 1 to 3 substituents selected from:

a) (C_{1-6}) alkyl, (C_{3-7})cycloalkyl, C_{3-7} spirocycloalkyl optionally containing 1 or 2 heteroatoms selected from N, O and S; (C_{2-6})alkenyl, (C_{2-8})alkynyl, (C_{1-3})alkyl-(C_{3-7})cycloalkyl, all of which optionally substituted with R^{160};

b) OR^{O};

c) $OC(O)R^{O}$;

d) SR^{O}, SO_2R^{C}, $SO_2N(R^{N2})R^{N1}$ or $SO_2N(R^{N2})C(O)R^{C}$;

e) $N(R^{N2})R^{N1}$, $N(R^{N2})COOR^{C}$ or $N(R^{N2})SO_2R^{C}$;

f) $N(R^{N2})COR^{C}$;

g) $N(R^{N3})CON(R^{N2})R^{N1}$;

h) $N(R^{N3})COCOR^{C}$, $N(R^{N3})COCOOR^{O}$ or $N(R^{N3})COCON(R^{N2})R^{N1}$; wherein R^{N1} is as defined or OH, OAlkyl;

i) COR^{O};

j) $COOR^{O}$;

k) tetrazole or $CON(R^{N2})R^{N1}$;

wherein said R^{N1}, R^{C} and/or R^{O} are optionally substituted with R^{160} as defined;

R^{160} is defined as 1, 2 or 3 substituents independently selected from:

- 1, 2 or 3 fluorine substituents; and
- one of each substituent selected from tetrazole, chlorine, bromine, iodine, CN, nitro, C_{1-4}alkyl, CF_3, $COOR^{161}$, SO_3H, SR^{161}, SO_2R^{163}, OR^{161}, $N(R^{162})_2$, $SO_2N(R^{162})_2$, $SO_2NR^{162}COR^{162}$, $NR^{162}SO_2R^{163}$, $NR^{162}COR^{162}$ or $CON(R^{162})_2$,

wherein R^{161}, R^{163} and each R^{162} is independently (C_{1-4})alkyl, (C_{3-7})cycloalkyl or (C_{1-3})alkyl-(C_{3-7})cycloalkyl; and R^{161} and each R^{162} may each independently also be H; or both R^{162} are covalently bonded together and to the nitrogen to which they are attached to form a 5, 6 or 7-membered

saturated heterocycle;

R^O, R^C are independently defined as (C_{1-6})alkyl, (C_{3-6})cycloalkyl, (C_{1-4})alkyl-(C_{3-6})cycloalkyl, (C_{2-6})alkenyl, aryl, **Het**, (C_{1-4})alkyl-aryl, (C_{1-4})alkyl-**Het**;

R^{N1} is H, (C_{1-6})alkyl, (C_{3-7})cycloalkyl, (C_{1-4})alkyl-(C_{3-6})cycloalkyl, (C_{2-6})alkenyl, aryl, **Het**, (C_{1-4})alkyl-aryl, (C_{1-4})alkyl-Het; or

R^{N2}, R^{N3}, R^{N4} are independently H, CH_3, $(C_{2-6}$alkyl), (C_{3-6})cycloalkyl, (C_{1-4})alkyl-(C_{3-6})cycloalkyl; all of which being optionally substituted with halogen, carboxy or C_{1-6}-alkoxycarbonyl; and/or wherein said alkyl, cycloalkyl or alkylcycloalkyl is optionally substituted with hydroxy, C_{1-6}-alkyl, C_{1-6}-alkoxy, amino, -NH(C_{1-4}-alkyl) and/or -N(C_{1-4}-alkyl)$_2$; and

in the case

a) of a group N(R^{N2})R^{N1} the substituents R^{N2} and R^{N1}; or

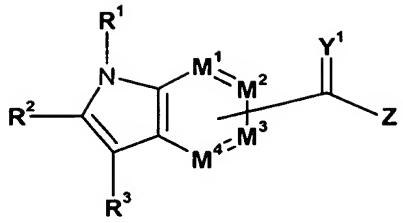
b) of a group NR^{N3}-N(R^{N2})R^{N1} the substituents R^{N3} and R^{N1}, or R^{N2} and R^{N1};

may be covalently bonded together to form a 4-, 5-, 6- or 7-membered saturated or unsaturated N-containing heterocycle or a 8-, 9-, 10- or 11-membered N-containing heterobicycle each may have additionally from 1 to 3 heteroatoms selected from O, N, and S, wherein said heterocycle or heterobicycle is optionally substituted as defined;

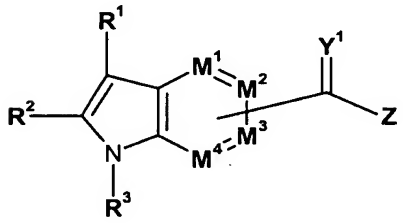
wherein **Het** is defined as a 4-, 5-, 6- or 7-membered heterocycle having 1 to 4 heteroatoms selected from O, N and S, or a 8-, 9-, 10- or 11-membered heterobicycle having 1 to 5 heteroatoms selected from O, N and S;

or a salt thereof.

3. The compound according to claim 1 selected from the group of formulas I.1 to I.5



I.1



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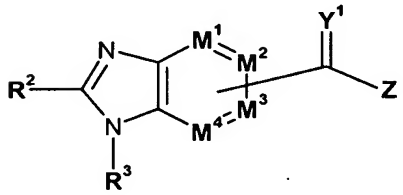

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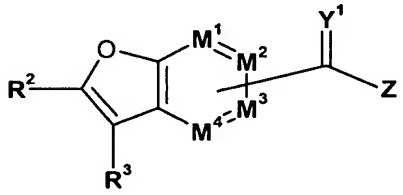

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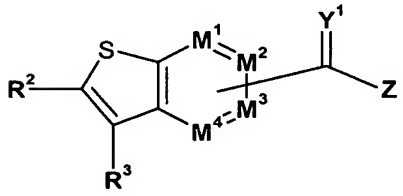


I.5

wherein R^1, R^2, R^3, Y^1, Z, M^1, M^2, M^3 and M^4 are defined as in claim 1.

4. The compound according to claim 1, wherein R^1 is selected from the group consisting of: H and (C_{1-6})alkyl.

5. The compound according to claim 4, wherein R^1 is H, CH_3, ethyl, or isobutyl.

6. The compound according to claim 5, wherein $\mathbf{R^1}$ is H or CH_3.

7. The compound according to claim 6, wherein $\mathbf{R^1}$ is CH_3.

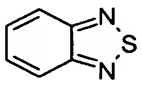
8. The compound according to claim 1, wherein $\mathbf{Y^1}$ is O.

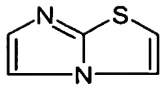
9. The compound according to claim 1, wherein **Z** is $NR^{N3}\text{-}SO_2\text{-}N(R^{N2})R^{N1}$, wherein $\mathbf{R^{N1}}$ or any heterocycle formed by $\mathbf{R^{N1}}$ and $\mathbf{R^{N2}}$ is optionally substituted with $\mathbf{R^{60}}$, and wherein $\mathbf{R^{N3}}$, $\mathbf{R^{N2}}$, $\mathbf{R^{N1}}$ and $\mathbf{R^{60}}$ are defined as in claim 1.

10. The compound according to claim 1, wherein **Z** is $NR^{N2}\text{-}SO_2\text{-}R^C$, wherein $\mathbf{R^C}$ is optionally substituted with $\mathbf{R^{60}}$, and wherein **Het**, $\mathbf{R^{N2}}$, $\mathbf{R^C}$ and $\mathbf{R^{60}}$ are defined as in claim 1.

11. The compound according to claim 10, wherein **Z** is $NH\text{-}SO_2\text{-}R^C$, wherein $\mathbf{R^C}$ is selected from the group consisting of $(C_{1\text{-}6})$alkyl, $(C_{3\text{-}6})$cycloalkyl, $(C_{1\text{-}3})$alkyl-$(C_{3\text{-}6})$cycloalkyl, $(C_{2\text{-}6})$alkenyl, phenyl, naphthyl, **Het**, $(C_{1\text{-}3})$alkyl-phenyl, $(C_{1\text{-}3})$alkyl-naphthyl, $(C_{1\text{-}3})$alkyl-**Het**, wherein said alkyl, cycloalkyl, alkyl-cycloalkyl, alkenyl, phenyl, naphthyl, **Het**, alkyl-phenyl, alkyl-naphthyl, or alkyl-**Het**, are all optionally substituted with 1 to 4 substituents selected from $\mathbf{R^{60}}$, wherein $\mathbf{R^{60}}$ and **Het** are defined as in claim 10.

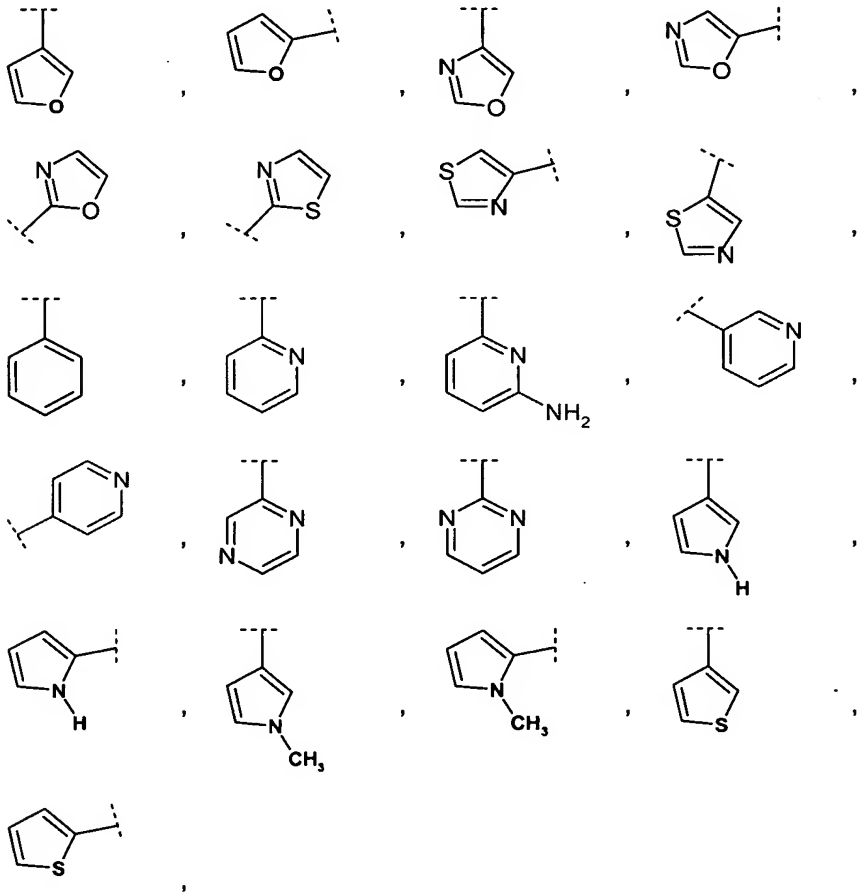
12. The compound according to claim 11, wherein Z is $NH\text{-}SO_2\text{-}R^C$, wherein $\mathbf{R^C}$ is selected from the group consisting of methyl, ethyl, n-propyl, i-propyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, pyrrolidine, piperidine, morpholine, thiomorpholine, piperazine, phenyl, naphthyl, benzyl, thiophene, furan, pyrrole, imidazole, pyrazole, oxazole, isoxazole, thiazole, pyridazine, pyrimidine, pyrazine, diazepine, azepine, quinoline, isoquinoline, benzofuran, benzothiophene, benzothiazole, purine, pteridine,

2,1,3-benzothiadiazole  , and

imidazo[2,1-B][1,3]thiazole  ;

all of which are optionally substituted with 1 to 3 substituents selected from R^{60}, wherein R^{60} is defined as in claim 11.

13. The compound according to claim 1, wherein R^2 is R^{21}, wherein R^{21} is phenyl or **Het** selected from the group of formulas



and wherein said R^{21} is unsubstituted or substituted with R^{150}, being defined as in claim 1.

14. The compound according to claim 1, wherein R^2 is R^{21}, wherein R^{21} is

defined as in claim 1, and wherein R^{21} is optionally substituted with 1, 2 or 3 substituents selected from:

- 1 to 3 substituents selected from halogen;
- one of each substituent selected from: NO_2, cyano, azido; and
- 1 to 2 substituents selected from:

a) (C_{1-4})alkyl or (C_{1-4})alkoxy, both optionally substituted with OH, $O(C_{1-4})$alkyl, $SO_2(C_{1-4})$alkyl), 1 to 3 halogen atoms, amino, $NH(C_{1-4})$alkyl) or $N((C_{1-4})alkyl)_2$;

b) $NR^{111}R^{112}$ wherein both R^{111} and R^{112} are independently H, (C_{1-4})alkyl, or R^{112} is (C_{3-7})cycloalkyl, (C_{1-3})alkyl(C_{3-7})cycloalkyl, phenyl, benzyl; or both R^{111} and R^{112} are covalently bonded together and to the nitrogen to which they are attached to form a nitrogen-containing heterocycle, each of said alkyl, cycloalkyl, alkylcycloalkyl, phenyl and benzyl, being optionally substituted with halogen or:

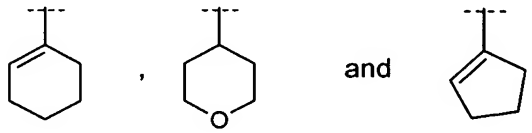
- OR^{2h} or $N(R^{2h})_2$, wherein each R^{2h} is independently H, (C_{1-4})alkyl, or both R^{2h} are covalently bonded together and to the nitrogen to which they are attached to form a nitrogen-containing heterocycle;

c) $NHCOR^{117}$ wherein R^{117} is (C_{1-4})alkyl, $O(C_{1-4})$alkyl or $O(C_{3-7})$cycloalkyl; and

e) $CONH_2$, $CONH(C_{1-4})$alkyl), $CON((C_{1-4})alkyl)_2$.

15. The compound according to claim 1, wherein R^3 is selected from (C_{3-7})cycloalkyl, (C_{5-7})cycloalkenyl, (C_{6-10})bicycloalkyl, (C_{6-10})bicycloalkenyl, or **Het**, wherein said groups are unsubstituted or mono- or disubstituted by halogen, cyano, nitro, hydroxy, (C_{1-4})alkyl and/or O-(C_{1-4})alkyl, wherein the alkyl groups may be fluorinated.

16. The compound according to claim 15, wherein R^3 is cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl or cycloheptyl, or a group selected from



and

wherein all said groups are unsubstituted or substituted by fluorine, (C_{1-3})alkyl or CF_3.

17. The compound according to claim 16, wherein $\mathbf{R^3}$ is cyclopentyl or cyclohexyl.

18. The compound according to claim 1 wherein $\mathbf{R^{4a}}$, $\mathbf{R^{4b}}$, $\mathbf{R^5}$ each are independently H, hydroxy, halogen, cyano, nitro, carboxyl, (C_{1-4})alkyl, CF_3, (C_{1-4})alkoxy, -O-(C_{3-7})cycloalkyl, -O-(C_{1-3})alkyl-(C_{3-7})cycloalkyl, -O-aryl, -O-(C_{1-3})alkyl-aryl, -O-**Het**, -O-(C_{1-3})alkyl-**Het**, $NR^{N1}R^{N2}$, COR^{O}, $NR^{N2}COR^{C}$, $CONR^{N2}R^{N1}$, or $NR^{N3}CONR^{N1}R^{N2}$;
wherein **Het**, $\mathbf{R^C}$, $\mathbf{R^O}$, $\mathbf{R^{N1}}$, $\mathbf{R^{N2}}$, $\mathbf{R^{N3}}$ and $\mathbf{R^{160}}$ are as defined in claim 1; and
wherein all said alkyl groups, including alkoxy, may be mono-, di- or trisubstituted by fluorine or mono-substituted by chlorine or bromine.

19. The compound according to claim 18 wherein $\mathbf{R^C}$, $\mathbf{R^O}$ and $\mathbf{R^{N1}}$ are independently of each other H, (C_{1-4})alkyl, aryl, (C_{1-3})alkyl-aryl;
wherein aryl is defined as phenyl optionally substituted with $\mathbf{R^{160}}$, wherein $\mathbf{R^{160}}$ is defined as in claim 18; and
wherein all said alkyl groups may be mono-, di- or trisubstituted by fluorine or mono-substituted by chlorine or bromine; and
wherein $\mathbf{R^{N2}}$ and $\mathbf{R^{N3}}$ are independently H or methyl.

20. The compound according to claim 18 wherein $\mathbf{R^{4a}}$, $\mathbf{R^{4b}}$, $\mathbf{R^5}$ each are independently H, hydroxy, halogen, cyano, nitro, methyl, CF_3, methoxy, carboxy, amino, -NMe_2, -$CONH_2$, -$NHCONH_2$, -CO-NHMe, -NHCONHMe, -CO-NMe_2 or -$NHCONMe_2$.

21. The compound according to claim 20 wherein $\mathbf{R^{4a}}$, $\mathbf{R^{4b}}$, $\mathbf{R^5}$ each are H, methyl or methoxy.

22. The compound according to claim 1 wherein $\mathbf{R^{4a}}$ is H or methyl.

23. The compound according to claim 1 wherein at least two of the substituents selected from R^{4a}, R^{4b}, R^5 are H.

24. The compound according to claim 1, wherein R^{60} is each defined as 1 to 4 substituents independently selected from:

- 1 to 3 substituents selected from halogen;
- one of each substituent selected from: NO_2, cyano, azido; and
- 1 to 3 substituents selected from:

a) (C_{1-4}) alkyl, (C_{3-7})cycloalkyl, (C_{2-4})alkenyl, (C_{2-4})alkynyl, (C_{1-3})alkyl-(C_{3-7})cycloalkyl, all of which optionally being substituted with R^{150};

b) OR^O;

e) $N(R^{N2})R^{N1}$;

f) $N(R^{N2})COR^C$;

j) $COOR^O$;

k) $CON(R^{N2})R^{N1}$;

l) phenyl, **Het**, (C_{1-3}alkyl)phenyl or (C_{1-3}alkyl)**Het**; wherein **Het** is selected from furan, tetrahydrofuran, thiophene, tetrahydrothiophene, tetrahydropyran, pyridinyl, azetidine, pyrrolidine, piperidine, piperazine, morpholine, thiomorpholine, homopiperidine and homopiperazine, all of which optionally being substituted with R^{150};

wherein said R^{N1}, R^C and/or R^O are optionally substituted with R^{150} as defined, and R^{150}, R^{N1}, R^{N2}, R^C and R^O are defined as in claim 1.

25. The compound according to claim 1, wherein

R^{150} is defined as 1 to 4 substituents independently selected from:

- 1 to 3 fluorine-substituents;
- one of each substituent selected from: chlorine, bromine, iodine, NO_2, cyano, azido; and
- 1 to 3 substituents selected from:

a) (C_{1-3}) alkyl, CF_3, (C_{3-6})cycloalkyl, (C_{1-3}) alkyl-(C_{3-6})cycloalkyl, all of which optionally substituted with R^{160};

b) OR^O;

e) $N(R^{N2})R^{N1}$;

f) $N(R^{N2})COR^C$;

j) $COOR^O$;

k) $CON(R^{N2})R^{N1}$;

wherein said R^{N1}, R^C and/or R^O are optionally substituted with R^{160} as defined; and

R^{160}, R^{N1}, R^{N2}, R^C and R^O are defined as in claim 1.

26. The compound according to claim 1, wherein

R^{160} is defined as 1, 2 or 3 substituents independently selected from:

- 1, 2 or 3 fluorine substituents; and
- one of each substituent selected from chlorine, bromine, iodine, CN, nitro, methyl, trifluoromethyl, ethyl, n-propyl, i-propyl, COOH, $COOCH_3$, OH, OCH_3, OCF_3, NH_2, $NHCH_3$, $N(CH_3)_2$, SO_2NH_2, $SO_2NHCOCH_3$, $NHCOCH_3$ or $CONH_2$, $CONHCH_3$ and $CON(CH_3)_2$.

27. The compound according to claim 1, wherein

R^O, R^C are independently defined as (C_{1-4})alkyl, (C_{3-6})cycloalkyl, (C_{1-3})alkyl-(C_{3-6})cycloalkyl, phenyl, benzyl, **Het**, (C_{1-3})alkyl-**Het**; all of which are optionally substituted as defined; and R^O may also be H;

R^{N1} is H, (C_{1-4})alkyl, (C_{3-6})cycloalkyl, (C_{1-3})alkyl-(C_{3-6})cycloalkyl, phenyl, benzyl, phenylethyl, **Het**, (C_{1-3})alkyl-Het; wherein said alkyl, cycloalkyl, alkyl-cycloalkyl, phenyl, benzyl, phenylethyl, **Het** and alkyl-**Het** are optionally substituted as defined; or

R^{N2}, R^{N3}, R^{N4} are independently H, methyl, ethyl, n-propyl, i-propyl, cyclopropyl, cyclopropylmethyl; all of which being optionally substituted with fluorine, carboxy or methoxycarbonyl; and/or wherein said ethyl, n-propyl or i-propyl is optionally substituted with hydroxy, methyl, methoxy, amino, $-NH(CH_3)$ and/or $-N(CH_3)_2$; and

in the case

a) of a group $N(R^{N2})R^{N1}$ the substituents R^{N2} and R^{N1} or

b) of a group NR^{N3}-$N(R^{N2})R^{N1}$ the substituents R^{N3} and R^{N1} or R^{N2} and R^{N1}

may be covalently bonded together to form a 5-, 6- or 7-membered saturated heterocycle which may have additionally one heteroatom selected from O, N, and S, wherein said heterocycle is optionally substituted as defined;

wherein **Het** is defined as in claim 1.

28. Use of a compound of the formula I according to claim 1, or a pharmaceutically acceptable salt thereof, as an inhibitor of HCV polymerase.

29. Use of a compound of the formula I according to claim 1, or a pharmaceutically acceptable salt thereof, as an inhibitor of RNA dependent RNA polymerase activity of the enzyme NS5B, encoded by HCV.

30. Use of a compound of the formula I according to claim 1, or a pharmaceutically acceptable salt thereof, as an inhibitor of HCV replication.

31. A method of treating or preventing HCV infection in a mammal, comprising administering to the mammal an effective amount of a compound of formula I according to claim 1, or a pharmaceutically acceptable salt thereof.

32. A method of treating or preventing HCV infection in a mammal, comprising administering to the mammal an effective amount of a compound of formula I according to claim 1, or a pharmaceutically acceptable salt thereof in combination with another antiviral agent.

33. A pharmaceutical composition for the treatment or prevention of HCV infection, comprising an effective amount of a compound of formula I according to claim 1, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

34. The composition according to claim 33 further comprising a therapeutically effective amount of one or more antiviral agents.

35. The composition according to claim 34, wherein said antiviral agent is selected from: ribavirin and amantadine.

36. The composition according to claim 34 wherein the antiviral agent is an other anti-HCV agent.

37. The pharmaceutical composition according to claim 36, wherein the other anti-HCV agent is an immunomodulatory agent, in particular selected from β-, δ- γ-, and ω-interferon.

38. A composition according to claim 36, wherein said anti-HCV agent is another inhibitor of HCV polymerase.

39. The composition according to claim 36, wherein the other anti-HCV agent is an inhibitor of HCV NS3 protease.

40. The composition according to claim 36, wherein the other anti-HCV agent is an inhibitor of another target in the HCV life cycle.

41. A composition according to claim 40, wherein said inhibitor of another target in the HCV life cycle is an agent that inhibits a target selected from HCV helicase, HCV NS2/3 protease and HCV IRES.

42. Use of a compound of formula I according to claim 1, or of a pharmaceutically acceptable salt thereof, for the manufacture of a medicament for the treatment and/or the prevention of a viral infection, preferably an HCV infection.